



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: NONDIRECTIONAL BEACON
FREQUENCY CONGESTION

Date: 6/18/84
Initiated by: AES-520


AC No: AC 20-120
Change:

1. **PURPOSE.** This advisory circular recommends several actions that the user can **take** to help alleviate problems of frequency congestion in the 190-535 **kHz** frequency range.
2. **BACKGROUND.** Low/medium frequency (**L/MF**) congestion has been a problem for decades. In large areas of the United States, frequency congestion makes it difficult or impossible to make frequency assignments to satisfy new nondirectional beacon (NDB) requirements. In an effort to alleviate this frequency congestion problem, the FAA requested that the Radio Technical Commission for Aeronautics (RTCA) form a special committee (SC-146) to develop and recommend improved automatic direction finder (ADF) standards. The resultant document, DO-179 Minimum Operational Performance Standards (MOPS), recommends an increase in tuning range and a tighter selectivity than those specified in the existing DO-142 Minimum Performance Standards (MPS). (Technical Standard Order TSO-c41d is based on RTCA DO-179.)
3. **RECOMMENDATIONS.**
 - a. **ADF Receiver Selectivity.** If you have decided to purchase an ADF and plan to use it in 1992-2000, the FAA recommends that you choose a receiver with at least DO-142 Category A selectivity. If you have decided to purchase an ADF and plan to use it after the year 2000, the FAA recommends that you choose a receiver with DO-179 selectivity.
 - b. **ADF Tuning Range.** In the United States, NDB assignments are being made in the 190-535 **kHz** range. If you have decided to purchase an ADF, the FAA recommends that you choose a receiver capable of tuning over all of this frequency range.
 - c. **Flying Overseas.** In many countries throughout the world, NDB assignments have been made on "half-kilohertz" frequencies (i.e., XXX.50 **kHz**). Thus, when flying overseas, the FAA recommends that your ADF be capable of tuning in one-half-kilohertz increments. (Since a large number of current ADF receivers tune in one-kilohertz increments rather than one-half-kilohertz increments, the FAA does not plan to make NDB assignments on "half-kilohertz" frequencies.)

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4. REQUEST FOR INFORMATION. Additional information may be obtained from the FAA at the following address:

Federal Aviation Administration
Systems Engineering Service
Spectrum Engineering Division, AES-500
800 Independence Avenue, S.W.
Washington, D.C. 20591


Leland F. Page
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